

What is claimed is:

5            1. A motion controller having an engineering system and a run time system, and that functionally combines the classic tasks of a PLC and a numerical controller, comprising:

10            a uniform run level model comprising a plurality of run levels of different types having differing priorities and further comprising a plurality of user and system-levels having differing priorities;

15            a data source for description information for one of the group consisting of system variables, alarms and commands; and

20            a converter coupled to the data source and to at least the engineering system; and

25            wherein the data source provides description information to the engineering system via the converter;

30            the motion controller being further configured to permit a technology packet to be loaded into at least one of the engineering and run time systems, to provide the system variables with current data for the technical process from the run time system, and to permit input to be made via a user interface of the engineering system.

2. The motion controller according to claim 1, wherein relevant documentation information is forwarded by the converter from the data source to an output medium.

25            3. The motion controller according to claim 1, further comprising the following run levels:

30            a) a position-control level, comprising an associated clocked system-level and user-level,

              b) an interpolator level, comprising the associated clocked system-level and user-level,

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- c) an event system level for events requiring a response,
- d) a user-level for asynchronous errors,
- e) a third user-level that is freely plan-able by the user in accordance with specific requirements, for one of the group consisting of alarm tasks, event tasks, control tasks and cyclical tasks,
- f) a group of levels, formed from a series of motion sequences, free cycles, and other low-priority system tasks, for background processing, wherein a level group for real-time processing comprises run levels a to e.

10                  4. The motion controller according to claim 1, wherein the technology packets comprise:

- a) code parts that represent controller specifics for the run time system and
- b) a configuration part that exhibits the allocation of those code parts to 15 each of the system-levels, as well as the sequence of their processing, wherein information relating to the configuration part is forwarded as needed to the engineering system.

20                  5. The motion controller according to claim 4, wherein the information of the configuration part of a technology packet is delivered to the run time system and the engineering system by use of the data source and the converter.

25                  6. The motion controller according to claim 4, wherein each technology packet comprises an adjusted number of technology object types for the run time system.

30                  7. The motion controller according to claim 4, wherein the user interface information comprises at least one of the group consisting of operating parameters, programming language features and declaration parts are allocated to the code parts.